



# INTERNATIONAL COTTON ADVISORY COMMITTEE

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## Report of the Eighth Meeting of the Task Force on Commercial Standardization of Instrument Testing of Cotton (CSITC) October 21, 2007, Izmir, Turkey

The 8<sup>th</sup> meeting of the Task Force on Commercial Standardization of Instrument Testing of Cotton (CSITC) was held in Izmir, Turkey in the Hilton Hotel, prior to the start of the 66<sup>th</sup> Plenary Meeting of the ICAC.

### Members present:

Andrew Macdonald, former President of the Liverpool Cotton Association, Chair  
Zbigniew Roskwitalski, Vice President and Director of the Gdynia Cotton Association, Poland, Rapporteur  
Romano Bonadei, Chairman of Filati Filartex in Italy  
Axel Drieling, Testing Methods Department, Bremen Fibre Institute  
Darryl Earnest, Deputy Administrator, Cotton Program, USDA/AMS  
Bruno Widmer, Manager Cotton Department, SGS (representing Graham Fogg)  
Jean-Paul Gourlot, CIRAD  
James Knowlton, Chief Standardization & Engineering Branch, USDA AMS  
Ibrahim Malloum, Cotton Commercial Manager, Somdiaa  
John Mitchell, President of the American Cotton Shippers Association  
João Luiz Ribas Pessa, farm director of Fazenda Nova in Brazil  
Ralph Schulzé, cotton industry consultant, Australia  
Peter Wakefield, Director, Wakefield Inspection Services

### Members Absent:

Lau Cheuk-Wai, Quality Control Department of Central Textiles in Hong Kong  
Urania Kechagia, Director, cotton and Industrial Plants Institute, Greece  
P.D. Patodia, Vice Chairman & Managing Director, Rime Textiles Ltd., India  
Jolly Sabune, Managing Director, Cotton Development Organization, Uganda  
Anton Schenek, Chair, ITMF International Committee on Cotton Testing Methods

**Observers:** O.P. Agarwal, Fatih Dogan, Charles M Ekelege, Muige Fkizoglu, Iwoana Frydrych, Momir Gad, Sebahattin Gazanfer, Hossein Ghorashi, Neal P Gillen, Takashi Izahara, James Johnson, Altif Hussain Katchi, Gotheer Kaleagasi, Zekr Kivana, Cigdem Kiligkoya, Matthias Knappe, Suresh Kotak, Malgorzata Matusiak, Dominic H Minanangati, Nayan Mirani, Yuji Nakagawa, Mohamed A Negim, Bill Norman, Greg Parle, Varadarajan Srinivasan, C.R. Srinivasan, Sehu Tanyolac, Ayse Ferdig Tekin, Allen Terhaar, Mert Turgat, Betuz Turgat, Jan Wellmann, and Khawaja M Zubair,

Terry Townsend and Rafiq Chaudhry served as Secretariat.

### Next Meeting:

The Ninth Meeting of the CSITC will be April 2, 2008 beginning at 2:00 PM in the Bremen Cotton Exchange.

**Background:** An Expert Panel on CSITC was formed in December 2003 on the instruction of the 62<sup>nd</sup> Plenary Meeting in Poland. CSITC is facilitating the adoption of universal instrument testing standards and procedures by all testing centers around the world. CSITC is also working to introduce the use of instrument testing language in the trading of cotton so that traditional descriptions of grade or type are replaced with instrument test values.

The members of the panel represent both exporters and importers and all segments of the world cotton industry. Observers are welcome at all meetings. By tradition, decisions at all ICAC meetings are determined by consensus with full participation by observers. If it is not possible to reach consensus, decisions would be made by a vote of members present.

The Expert Panel issued two interim reports in 2004, including a report to the 63<sup>rd</sup> Plenary Meeting in India in November that identified seven actions to encourage worldwide testing of cotton with standardized instrument

testing methods and procedures. The actions include 1) definition of specifications for cotton trading, 2) definition of international test rules, 3) implementation of test rules, 4) certification of testing test centers, 5) definition and provision of calibration standards, 6) specification of commercial control limits for trading and 7) the establishment of arbitration procedures. The report from the Expert Panel included specific actions and identifies responsible parties for the achievement of each recommendation.

During a small-group meeting in Bremen in April 2005 and during the 3rd Meeting in Memphis in June 2005, the seven recommendations and status of implementation were reviewed. During the 3rd Meeting, the CSITC determined that the original tasks associated with diagnosis of problems and the development of recommendations had been achieved and that a new phase of work had begun with the implementing of proposals. Therefore, the name of the panel was changed to "Task Force" on CSITC to better describe the new role in facilitating the implementation of proposals.

During the 4<sup>th</sup> Meeting in Liverpool in September 2005, the CSITC discussed the results of a pilot round trial and considered how best to rate test centers. It was agreed at the 4<sup>th</sup> Meeting that the world cotton industry **will not seek to establish an international testing center**, and it was agreed that **testing centers should be rated according to their performance** relative to other participating testing centers in a series of CSITC Round Trials.

During the 5<sup>th</sup> Meeting in Bremen in March 2006, the CSITC considered the results of a Second Pilot Round Trial and agreed to a system of evaluating test centers based on parameters for individual measurements and an overall score.

During the 6<sup>th</sup> Meeting in Goiania, Brazil in September 2006, the CSITC adopted a formula and set of scale factors to calculate a "**Combined Properties Measurement**" to enable testing centers to gauge their current performance and to track progress over successive Round Trials. It was decided that quarterly Round Trials should begin in 2007, with a nominal cost of US\$75 per Round Trial charged to participating test centers to cover the costs of sample shipment. The CSITC decided to include non-U.S. cotton in the Round Trials as a "fifth sample," with the understanding that the fifth sample will not be used in the calculation of the Combined Properties Measurement. Results from tests on the "fifth samples" will be used to show the in-laboratory and inter-laboratory variability on cottons from different origins. The Task Force decided that **a summary of results of all participating test centers in each Round Trial would be published** on the ICAC web site. However, the names of participating test centers, the results for each center, and the disaggregated results for each test parameter will be given only to each test center in order to encourage participation. Test centers will also receive detailed reports indicating their performance relative to all other test centers and recommendations for improvement. The Task Force agreed that its current structure should continue through 2007. The CSITC agreed to meet with the leadership of the ITMF International Committee on Cotton Testing Methods (ICCTM) during 2007. Progress on technical matters referred to ICCTM by CSITC (e.g., effect of trash on color readings), will be reviewed, and possible additional tests, e.g., fineness/maturity, will be considered.

During the 7<sup>th</sup> Meeting in Winterthur, Switzerland in March 2007, the results of the first official Round Trial conducted in December 2006 and January 2007 were reviewed. The Task Force approved the format of a certificate of participation and accompanying tables and charts with detailed examination of results to be provided to each participating testing center. The Task Force confirmed that evaluations of laboratory performance would be **calculated from the mean values** of participating labs rather than using the standard values determined in advance by USDA. The mean values will be presented in comparison to the values established by the USDA. The Task Force decided to **exclude obvious typographical errors** from the calculation of results from each lab, as such errors would skew results to absurd ranges, but it was decided that the reports from the Bremen Fibre Institute would inform labs of such errors so that data-handling procedures can be improved. Acceptance ranges for each of the 6 parameters were approved. If results reported by testing centers fall within each range, the results will be used in the evaluation of laboratory performance; results falling outside each range will be excluded. The CSITC agreed that the Bremen Round Trial and USDA check tests are more appropriate vehicles for investigation of methods to develop tests for Short Fiber Index, stickiness and neps. The CSITC asked the ITMF International Committee on Cotton Testing Methods (ICCTM) to study how to improve these tests. It was noted in the 2<sup>nd</sup> Pilot Round Trial (2006) that there were persistently lower Rd measurements using HVI 900 or HVI Spectrum versus the newer HVI 1000 instruments (all instruments are manufactured by Uster Technologies). The Task Force decided that participating laboratories should receive a document with recommendations for good incandescent colorimeter performance. The CSITC decided to ask the ICCTM to investigate how best to compensate for trash in color measurements. Regarding the use of instrument values in arbitration of contracts, the CSITC decided to continue to conduct round trials and provide results to participating labs. Those **labs that wish to be certified for arbitration purposes should apply to an arbitral authority for certification**. The CSITC

decided that it **will not establish certification procedures**, but each arbitral body will decide their own certification standards, and labs will apply to the arbitral body, not the CSITC, for certification. The Task Force agreed that the results of the CSITC Round Trials, especially the inter-laboratory variations, would be published and given to the cotton associations. The results will help the associations to fix commercial tolerances.

### **Report of the Eighth Meeting**

#### **Review of CSITC Round Trials 1 through 3**

Axel Drieling presented information comparing overall data and single-lab data for each parameter over the first three round trials. It was noted that the results were consistent from one round trial to the next, strengthening confidence in the CSITC process. The data indicated small improvements in the measurement of some parameters over time, but the changes were not statistically significant. Additional data from future round trials will be examined to determine if improvements in test center performance are occurring.

Axel and Jimmy Knowlton reported that no differences occurred between the inter-laboratory averages reported by participating test centers during the first three CSITC round trials and the USDA Established Results for strength, length uniformity index, Rd and +b. However, small differences were observed for measurements of micronaire and length. In addition, small differences were noted for Rd results reported by users of HVI 1000 compared with results reported by users of HVI 900 or HVI Spectrum. Too few instruments manufactured by Premier or Lintronics were used in the round trials to make statistically valid comparisons with results from test centers using Uster instruments. Results from future round trials will be evaluated to determine if statistically valid conclusions can be drawn. A possible explanation for the small differences in some readings between newer and older instruments is that older instruments might be calibrated with out-of-date reference material.

Axel reported that work done earlier based on the Bremen Round Trial indicates that instruments from different manufacturers will give results on one common level if operated properly. Representatives of all instrument manufacturers were asked to encourage testing centers using their equipment to participate in CSITC round trials so that comparisons among the performances of different instrument manufacturers could be statistically robust.

#### **Fifth Cotton**

The inclusion of a 'fifth' cotton in the CSITC Round Tests was discussed, and the principle endorsed. The Task Force agreed that the fifth sample could be of any origin, but would need to be properly prepared by USDA to minimize variation between samples. To further reduce the risk of distortion of results, it would be assessed separately from the 4 test samples. Andrew Macdonald invited any party to provide cotton for the fifth sample. Joao Luiz Pessa agreed to arrange for delivery of a Brazilian bale to USDA for use as a fifth cotton in a future round trial.

#### **Feedback To Round Trial Participants**

There was considerable discussion on the need for interactive feedback, especially with participating test centers with results outside the statistically normal range. Axel Drieling said that resources provided under the CFC-EC funded project on CSITC would enable the Bremen Fibre Institute to assist poorly performing testing centers. It was agreed that the topic of providing constructive diagnostic information should be on the agenda for the next CSITC Task Force meeting. Instrument manufacturers will be included in the discussion to suggest ways of maintaining equipment or improving operator training.

#### **Encouraging Participation in Round Trials**

The ICAC Secretariat presented a 2-page Invitation/Participation form, and this was well received. All agreed that the stage has been reached where greater participation is essential. A concerted promotional effort, led by Andrew Macdonald and Terry Townsend, and covering ICAC, ITMF, all Cotton Associations, instrument manufacturers and all sectors of the trade, should be launched. The Task Force set the participation fee at US\$300 for four tests. It was suggested that advocates be recruited from each major cotton producing region to encourage participation in round trials.

#### **Publication of the Names of Participating Testing Centers**

The publication of the list of CSITC Round Trial participants was seen as a positive mechanism to encourage uptake. The CSITC effort is seen as 'good for the international industry' and as such, a good thing with which to be associated. The Task Force supported a proposal to publish the list of participating testing centers, with the proviso that those not wishing their names to be included could choose not to be listed. A 'tick box' on the forms presented by the Secretariat would facilitate this. It was emphasized that only the names of participating testing centers, and not confidential information about performance, would be made public.

The issue of public disclosure of participation will be on the agenda of the next CSITC meeting to allow further discussion.

A proposal to publish a list of testing centers with passing or failing performances in round trials was not supported.

### **Inclusion of Additional Parameters in CSITC Round Trials**

Romano Bonadei presented 'a spinners view' on neps and stickiness. He highlighted the ability of Lintronics equipment and the AFIS system to provide meaningful measurements of neps and stickiness. He noted that 6 Fiberlabs are operated in Italy, and that Italian spinners have developed their own calibration cottons and standards for stickiness. In Italy, the mean value of stickiness in a typical cotton is set equal to a stickiness value of 100 as tested with a Fiberlab. Values of 60 or less in a sample are defined as being low in stickiness, values of 61 to 120 are defined as medium sticky, values of 121 to 200 are sticky, and values above 200 are defined as being highly sticky. Romano concluded that it is possible to have repeatable and rapid tests for stickiness and neps, and he challenged other instrument manufactures to develop testing equipment.

However, Hossein Ghorashi noted that, while tests for stickiness and neps are technically feasible, they are not economically practical. He also noted that Uster has already responded to an earlier CSITC request to produce a practical testing instrument at lower cost (the Uster 700 operates at slower speeds but is priced at 60% of the cost of an Uster 1000), and that manufacturers are sensitive to the demands of industry. Romano noted that as labor costs rise, pressures to improve yarn quality will increase, resulting in incentives to improve testing methods. Ibrahim Malloum noted that inclusion of SFI, stickiness, trash and neps, as parameters for evaluation of cotton quality would benefit those countries producing cotton with better performances in these measurements. Jean-Paul Gourlot observed that it is difficult to introduce new parameter measurements into standardized testing systems because testing procedures have not been established internationally. Other speakers suggested that if statistically valid measurements for neps and stickiness could be utilized, price premiums and discounts would provide incentives for improvements in cotton quality.

There was general agreement that CSITC should expand its focus to these and other relevant fiber quality measurements, once the current system is adopted universally, and once rapid/repeatable measuring equipment becomes available. On this latter issue, it was agreed that close collaboration with ITMF's International Committee on Cotton Testing Methods is essential. To this end, a joint session of CSITC and ICCTM is envisaged during the Bremen activities in early April 2008.

**SFI Calibration Cottons:** The Task Force on CSITC decided during the 7<sup>th</sup> Meeting in Winterthur that the International Cotton Association (ICA), as a signatory to the Universal Cotton Standards Agreement, would petition USDA to develop calibration standards for Short Fiber Index at the next Universal Cotton Standards Conference in June 2008 in Memphis. However, Jimmy Knowlton of USDA suggested that a more constructive first step in making progress on the subject of SFI would be to organize a small group of about ten labs with HVI 1000's to evaluate the new SFI cotton calibration. Jimmy suggested that USDA could provide "research" SFI values on special calibration cottons to these labs. The group of labs would be a subset of CSITC labs. The subset of labs would enable the SFI cotton calibration option on their instruments when they test their CSITC round test samples. The SFI data would be collected on the CSITC samples and sent to USDA with the regular CSITC test data. A separate analysis would be performed on the SFI data independent of the normal CSITC round test analysis.

It was noted that China is considering the development of their own SFI standards using a different definition (16.5 mm and less) than the definition of SFI in common use elsewhere (12.7 mm or shorter). Neal Gillen observed that USDA should be encouraged to develop a SFI standard for inclusion in the Universal Cotton Standards. Jimmy Knowlton mentioned that USDA is creating an ASTM International Standard Method for creating and establishing new reference material. The CSITC agreed that any reference material that will be developed should follow the ASTM International Standard Method.

The Task Force agreed that an SFI standard is needed, and there was a consensus to support the proposal by Jimmy Knowlton to use a subset of CSITC participants to evaluate the new SFI cotton calibration standard. It was decided that the ICA should not petition the Universal Standards Conference in June 2008 to have USDA develop SFI calibration standards at this time, pending additional research.

**Trash Measurement:** It was reported that there had been no significant progress in improving measurements of trash. Ibrahim Malloum urged instrument manufacturers to develop a measurement for trash, and he hoped that CSITC could include such a measurement in future round trials so as to facilitate acceptance. It was decided that CSITC will ask that the topic be on the agenda of the CSITC/ICCTM session in Bremen in April 2008.

### **Annual Reports to CSITC Participants**

There was general support to ask Axel Drieling to provide annual reports to participating testing centers covering the performance of their instruments.